We claim:

1. A method for measuring protein S activity in a plasma sample, comprising the steps of:

(a) mixing a sample of test plasma with PS-deficient plasma, tissue factor (TF), phospholipid (PL), calcium and activated protein C (APC) and measuring the clotting time of the sample; and

(b) comparing the measurement in (a) to a standard curve derived from the clotting time of plasma samples having a range of known protein S activities.

2. A method for measuring protein S activity in a plasma sample, comprising the steps of:

(a) preparing a standard curve by mixing plasma samples having a range of protein S activities with PS-deficient plasma, tissue factor (TF), phospholipid (PL) and activated protein C (APC), measuring the clotting time and plotting clotting time vs. protein S activity;

(b) mixing a sample of test plasma with PS-deficient plasma, TF, PL, calcium and APC and measuring the clotting time of the plasma sample; and

(c) comparing the measurement in (b) to the standard curve prepared in (a).

3. A method for measuring protein S activity in a plasma sample, comprising the steps of:

(a) mixing a sample of test plasma with PS-deficient plasma, tissue factor (TF), phospholipid (PL), calcium and an activator of Protein C (PCA) and measuring the clotting time of the sample; and

(b) comparing the measurement in (a) to a standard curve derived from the clotting time of plasma samples having a range of known protein S activities.

4. A method for measuring protein S activity in a plasma sample, comprising the steps of:

(a) preparing a standard curve by mixing plasma samples having a range of protein S activities with PS-deficient plasma, tissue factor (TF), phospholipid (PL), calcium and an activator for Protein S (PCA), measuring clotting time, and plotting clotting time vs. protein S activity;

(b) mixing a sample of test plasma with PS-deficient plasma, TF, PL and a PCA and measuring the clotting time of the plasma sample; and

(c) comparing the measurement in (b) to the standard curve prepared in (a).

5. The method of any one of claims 1-4, wherein the TF is recombinant.

6. The method of any one of claims 1-4, wherein the recombinant TF is rabbit TF.

7 The method of any one of claims 1-4, wherein the TF is purified from mammalian cells.

8. The method of any one of claims 1-4, wherein the PL is synthetic.

9. The method of any one of claims 1-4, wherein the PL comprises 1,2-dioleoyl-sn-glycero-3-phosphocholine (PC), 1,2-dioleoyl-sn-glycero-3-phospho-L-serine (PS), and 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (PE).

10. The method of any one of claims 1-4, wherein the molar ratio of PC:PS:PE is about 3 to about 4 to about 5.

11. The method of claim 1 or 2, wherein the activated protein C was activated prior to the assay by thrombin.

12. The method of claim 1 or 2, wherein the activated protein C was activated prior to the assay by snake venom.

13. The method of claim 1 or 2, wherein the activated protein C was derived from recombinant Protein C.

14. The method of claim 1 or 2, wherein one or more of the PS-deficient plasma, TF and APC are derived from a mammalian source selected from the group consisting of a cow, a pig, and a rabbit.

15. The method of any one of claims 1-4, wherein one or more of the PS-deficient plasma, TF and APC are derived from a human.

16. The method of any one of claims 1-4, wherein the variation of calibration curves has a <3% coefficient of variation (CV) over a period of 2 hours.

17. The method of any one of claims 1-4, wherein the variation of calibration curves has a <3% coefficient variation (CV) over a period of 8 hours.

18. The method of any one of claims 1-4, wherein the variation of calibration curves has a <3% coefficient variation (CV) over a period of 2 weeks.

19. The method of any one of claims 1-4, wherein the assay has a <3% within-run coefficient of variation (CV).

20. The method of any one of claims 1-4, whereas the measuring step is chromogenic.

21. The method of any one of claims 1-4, whereas the measuring step is spectrophotometric.

22. The method of claim 1 or 3, further comprising the step of measuring the clotting time of a normal control plasma sample with known protein S activity and comparing that clotting time to the clotting time in step (a) or step (b).

23. A kit for measuring the functional activity of protein S (PS) in a plasma sample, said kit comprising one or more containers containing PS-deficient plasma, tissue factor (TF), phospholipid (PL), calcium and/or activated Protein C (APC).

24. A kit for measuring the functional activity of protein S (PS) in a plasma sample, said kit comprising one or more containers containing PS-deficient plasma, tissue factor (TF), phospholipid (PL), calcium and/or protein C activator (PCA).

28. The kit of claim 23 or 24, further comprising calibration plasma comprising about 100% protein S for preparing a standard curve.

25. The kit of claim 23 or 24, further comprising normal control plasma comprising between about 40-50% protein S.